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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/718,086

**MAILED**

Filing Date: November 19, 2003

**OCT 10 2006**

Appellant(s): CLEMENS, READE

**Group 3700**

Barry Kelmachter  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed on 07/27/2006 appealing from the Office action  
mailed 02/23/2006.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

*Specification*

1. The Specification has been objected to under 37 CFR 1.71 for not clearly explaining the diamond mounting direction in paragraph [0019].

The Specification does not describe how the locations of the coordinates are defined so that one or ordinary skilled in the art can make and use the same. That is, whether these coordinates are defined relatively to the shank axis or the diamond tip axis.

*Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-14 have been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 1, 13 and 14, it is unclear whether Applicant claims atomic arrangement of atoms in the diamond tip 16 or the angle of the diamond tip 16 with respect to the shank axis 24 or the angle of the outer surface of the diamond tip with

respect to the diamond tip's axis or the diamond tip's base. There is insufficient information as to the specific intrinsic crystallographic direction and the angle to what it is. That is, it is not clear what the <17, 12, 24> direction represents.

It is not clear why mounting of any diamond tip to an indenting tool would not inherently meet the limitation of the direction of the diamond tip, since the Applicant's diamond tip is very similar to other diamond tips which both align with the axis of their shank and both have conical shape.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6 and 8-14 have been rejected under 35 U.S.C. 102(b) as being anticipated by Anderson et al. (6,051,079), hereinafter Anderson.

Regarding claims 1 and 13, Anderson teaches a tool capable of being used as an indenting tool comprising a shank 10 and a diamond tip 12. See Fig. 3, col. 3, lines 29-54 and the Abstract.

To the extent explained by the Applicant's specification, drawings, and claims, Anderson anticipates the limitation of the direction of the diamond tip. Since Anderson's diamond tip is similar to Applicant's diamond tip which has a conical shape and aligns with the shank axis and the Applicant's diamond tip is considered to be "within 8

degrees of a <17, 12, 24> direction"; therefore, a conical tip being on an axis of a shank is considered to be "within 8 degrees of a <17, 12, 24>" direction.

Regarding claim 2, shank 10 is made of steel.

Regarding claims 3 and 4, see Fig. 3.

Regarding claims 5 and 6, since Anderson claims the diamond tip in general, Anderson anticipates narrower claims 5 and 6.

Regarding claim 8, see Fig. 1.

Regarding claims 9 and 10, since Applicant does not clearly define the shape of the diamond tip and the diamond tip in Figs. 1 an 2 of the Applicant's disclosure has a the same shape of the diamond tip of Anderson; therefore, Anderson anticipates claims 9 and 10.

Regarding claim 11, see col. 3, lines 29-54 and the Abstract.

Regarding claim 12, see Fig. 1.

Regarding claim 14, Anderson teaches a method capable of making an indenting tool comprising the steps of:

- providing a shank 10 having an end;
- providing a diamond 12;
- positioning the diamond in a wear resistant position;
- securing the diamond to the end of the shank; and
- the positioning step comprising positioning the diamond a wear resistant

orientation of within 8 degrees of a <17, 12, 24> direction.

See Fig. 3.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 7 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson.

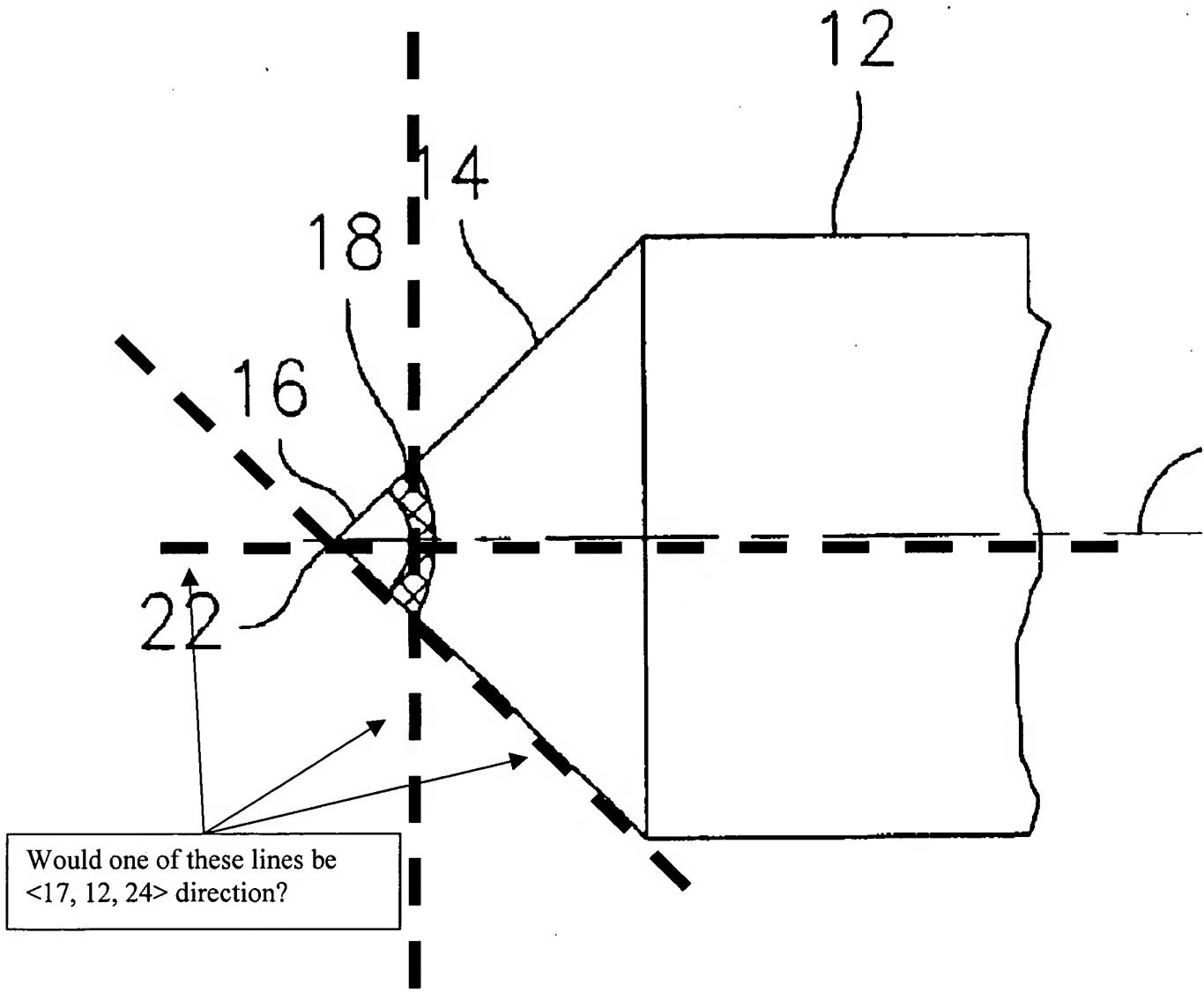
Anderson teaches the invention substantially as claimed but silence on whether the diamond is synthetic or natural. However, choosing a synthetic diamond or a natural diamond to manufacture a diamond tip is not patentably distinct over prior art since it involves cost analysis, the availability of natural diamond and synthetic diamond, and the market demand.

**(10) Response to Argument**

Regarding the Applicant's argument with respect to 35 USC 112, 1<sup>st</sup> paragraph, enablement rejection, the Applicant argues that the Examiner does not provide any reason why one of ordinary skill in the art having the teachings contained in the Specification and the Drawings could not make and use of the claimed invention. This argument is not persuasive. The Examiner clearly provided his doubts why one of ordinary skill in the art could not make or use of the claimed invention in the 35 USC 112 rejection section.

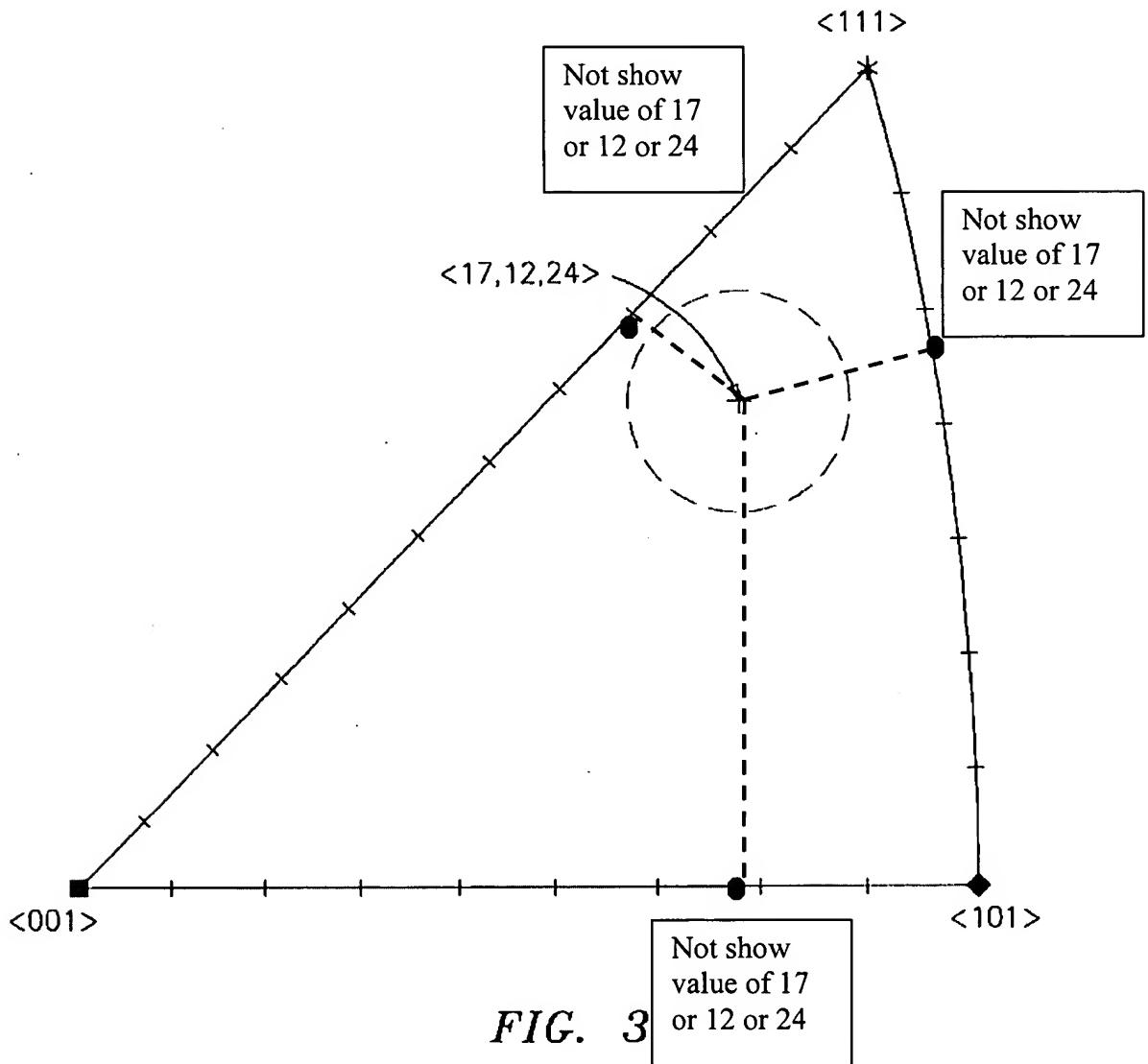
The Applicant does not provide enough information of the <17, 12, 24> direction so that one of ordinary skill in the art can make and use the claimed invention. For example, would the

cutting tip 22 in Fig. 1 of the disclosure not be tilted more than 8 degrees with respect to the shank axis 24 is what the Applicant claims? Or would one of the surfaces of the indenting tip be <17, 12, 24> direction? See below sketch.



*FIG. 2*

The Applicant asserts that Fig. 3 represents the  $<17, 12, 24>$  direction. However, projecting perpendicular lines from the coordinate  $<17, 12, 24>$  does not produce the same value of the coordinate. See below sketch.



Regarding the Applicant's argument with respect to Anderson et al., the Applicant argues that Anderson does not teach the crystallographic orientation of the diamond tip. This argument is not persuasive. Since Applicant does not clearly define what "within 8 degrees of a <17, 12, 24> direction" means and the diamond tip of Anderson is similar to the claimed diamond tip as provided in Fig. 2 of the disclosure which is the axis of the indenting tip aligns with the axis of the shank, Anderson's diamond tip is considered to be mounted "within 8 degrees of a <17, 12, 24> direction".

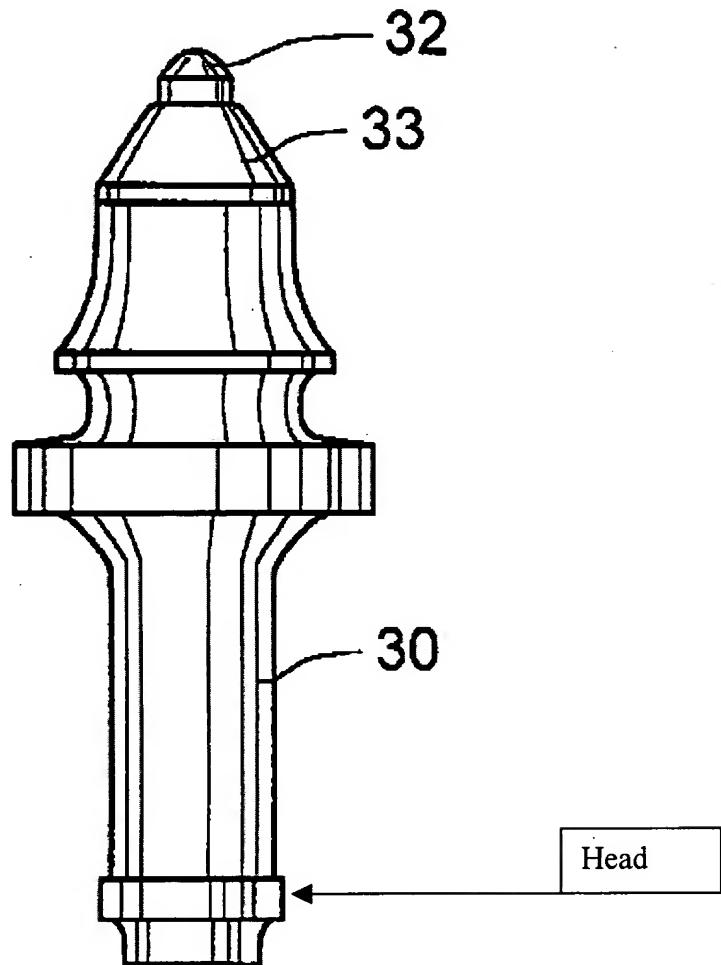
The Applicant argues that Anderson does not teach a single diamond. This argument is not persuasive. The Anderson's tool has one indenting tip and the tip is covered by diamond coating. Therefore, the indenting tip is considered as single diamond. Moreover, the Applicant does not explicitly claim a pure cubic diamond being affixed to the tip of the shank. Therefore, Anderson's diamond tip reads on claim 1.

The Applicant argues that Anderson does not teach securing a diamond to an end of the shank. This argument is not persuasive. The indenting tip is covered by diamond coating and attached to an end of the shank as seen in Fig. 3. Therefore, Anderson clearly teaches securing a diamond to an end of the shank.

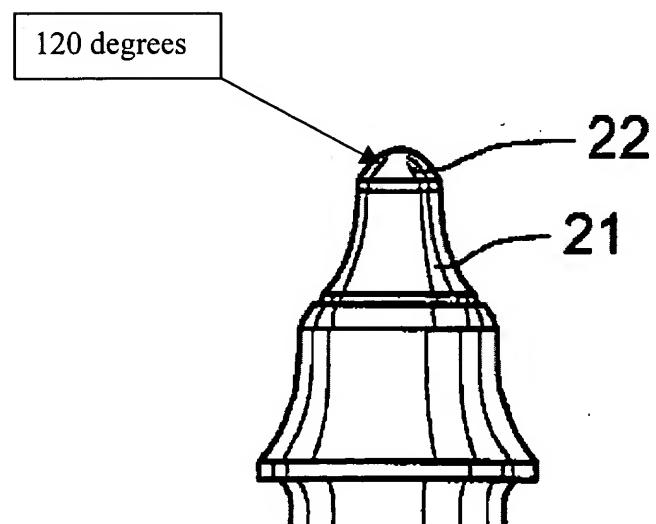
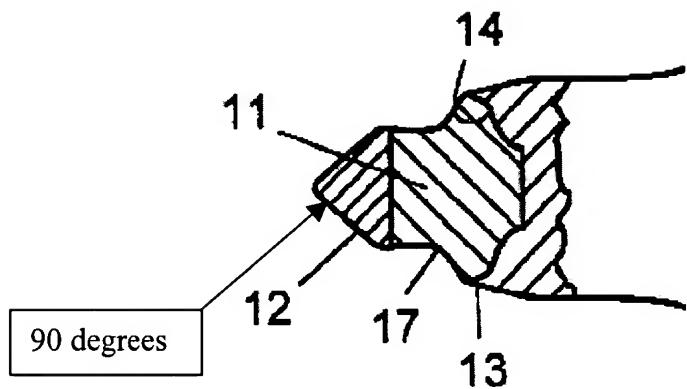
The Applicant argues that Anderson does teach the steps of positioning a diamond in the claimed wear resistant orientation. This argument is not persuasive. Since the Applicant does not clearly define the claimed wear resistant orientation in the Specification, the Drawings and the claim language, and the diamond tip of Anderson is similar to the claimed diamond tip as provided in Fig. 2 of the disclosure, the claimed wear resistant orientation is considered to be inherent in the Anderson's indenting tip.

The Applicant argues that Anderson does not teach forming a shank to which a diamond is attached from steel (claim 2); a head formed adjacent a second end of the shank (claim 3); a head which is wider than the shank (claim 4); the use of a single crystal diamond (claims 5 and 6); a diamond which in a final ground state has a length greater than an indentation depth to be imparted to a part to be marked (claim 8); a diamond having a 90 degree included angle conical point (see Fig. 7); a diamond having a 120 degree included angle conical point (see Fig. 5); a brazing alloy which wets both the diamond and the material forming the shank (claim 11); and a shank with a tapered tip end (claim 12) to which a diamond is attached. This argument is not persuasive.

Anderson teaches forming a shank to which a diamond is attached from steel (col. 5, lines 5-10); a head formed adjacent a second end of the shank (see Fig. 8); a head which is wider than the shank (see Fig. 8); the use of a single crystal diamond (there is one indenting tip and it is covered by diamond coating; therefore the indenting tip is a single diamond); a diamond which in a final ground state has a length greater than an indentation depth to be imparted to a part to be marked (it is inherent.); a diamond having a 90 degree included angle conical point (see Fig. 3); a diamond having a 120 degree included angle conical point (claim 10); a brazing alloy which wets both the diamond and the material forming the shank ( see the Abstract and col. 3, lines 29-54); and a shank with a tapered tip end 12 (see Fig. 3) to which a diamond is attached.



**FIG. 8**



Regarding the Applicant's argument with respect to claim 7, the Applicant argues that Anderson does not teach the use of synthetic diamond and the Examiner does not provide any reason for replacing natural diamond with a synthetic diamond. This argument is not persuasive. The use of synthetic diamond is well known in the art as evidenced in the patent to Roberts (6,158,952) cited by the Applicant in the Information Disclosure Statement filed on 07/21/2004 and the Examiner clearly provides a statement why one of ordinary skill in the art would use synthetic diamond in the rejection.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

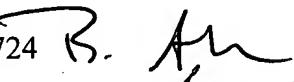
For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Phong Nguyen 

September 22, 2006

Conferees:

Boyer Ashley, SPE 3724   
Joseph Hail, SPE 3723 

Bachman & LaPointe, P.C.